



**Environmental Monitoring and Technologies,
Inc.**



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Driveway Sealants and Lake Water Quality

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Background

- Recent well-publicized studies by the US Geological Study have raised public consciousness on the impact of driveway sealants on water quality
- Driveway sealants are typically sprayed or painted on asphalt pavement.
- Sealants are not typically used on roads.

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Two types of sealants are commonly used

- *Asphalt (oil) based*
- *Coal tar pitch based*
 - *Coal Tar pitch is 50 percent or more PAHs by weight.*

- Acenaphthene
- benzo[*j*]fluoranthene
- benzo[*k*]fluoranthene*
- chrysene*
- dibenz(a,h)anthracene*
- fluoranthene
- fluorene
- indeno(1,2,3-cd)pyrene*
- phenanthrene
- pyrene
- acenaphthylene
- anthracene
- benz[*a*]anthracene*
- **benzo[*a*]pyrene***
- benzo[*e*]pyrene*
- benzo[*b*]fluoranthene*
- benzo[*ghi*]perylene

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Coal Tar is used in an amazing variety of products

- Soaps and Shampoos
- Dandruff and psoriasis medications
- Used on draperies and window shades
- Paints, dyes, and synthetic materials
- Driveway sealants

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Recent USGS Study

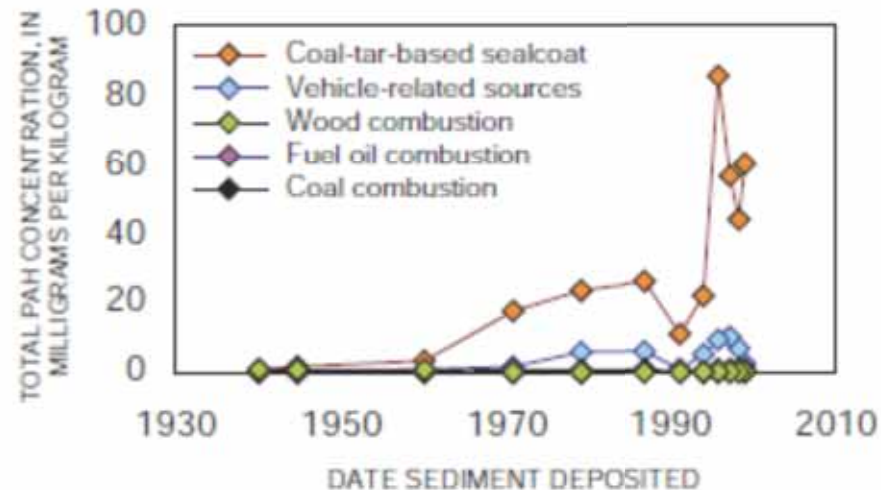
- PAHs are increasing in urban lakes across the United States
- USGS scientists collected sediment cores from 40 lakes, analyzed the cores for PAHs, and determined the contribution of PAHs from many different sources using a chemical mass-balance model.
- On average, coal-tar-based sealcoat accounted for one-half of all PAHs in the lakes, while vehicle-related sources accounted for about one-quarter.
- Lakes with a large contribution of PAHs from sealcoat tended to have high PAH concentrations, in many cases at levels that can be harmful to aquatic life.
- Analysis of historical trends in PAH sources to a subset of the lakes indicates that sealcoat use since the 1960s is the primary cause of increases in PAH concentrations

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Sources of Contaminants



Coal-tar-based sealcoat (orange symbol) is the largest contributor to increasing concentrations of PAHs in Lake Killarney, Orlando, Florida, as determined by chemical fingerprinting. Similar patterns were seen in lakes across the central and eastern United States (Van Metre and Mahler, 2010).

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McHenry County “Model” Ordinance on Coal Tar Sealants

- “prohibits the use, sale or retail display of sealcoat products within McHenry County (applies to all unincorporated McHenry County and all municipalities that have adopted this ordinance) that are labeled as containing coal tar”.
- Also requires retailers to prominently display information about the ordinance where customers make their driveway sealant purchases.

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Lake-in-the Hills

“Notice” to Residents

- “If you decide to sealcoat your asphalt driveway this year, there are a few things you should know.
 1. Sealcoating makes old asphalt look new and protects its surface.
 2. Studies conducted by the United States Geological Survey (USGS) raise concerns about the chemicals used in the various products
 3. The coal tar variety is more resilient, but it contains higher levels of a class of chemicals called PAHs (polycyclic aromatic hydrocarbons) that harm fish, and with prolonged exposure, pose a risk of cancer in humans.
 4. Because of the environmental problems associated with PAHs, the City of Austin, Texas, Dane County, Wisconsin, and Washington D.C. have banned use of coal tar-based sealcoat in their jurisdictions (asphalt-based sealcoat may still be used).
 5. The Village of Lake in the Hills is providing this notice to encourage residents to study product labels carefully and take steps to protect our environment.”

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EMT, Inc

- A Full Service Analytical and Field Sampling Laboratory
- A Service Disabled Veteran Owned Small Business (SDVOSB) and a DBE
- In business since 1984
- Accreditations:



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Questions

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